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ABSTRACT

Designed for use by vendors, this guide provides an overview of the objectives for the 5-year computer literacy program to be implemented in the District of Columbia Public Schools; outlines requirements which are mandatory elements of vendors' bids unless explicitly designated "desirable"; and details specifications for computing equipment, software, communications equipment, and maintenance services needed to meet the first-year objectives of the program. Detailed specifications are presented under six headings: (1) core equipment, including hardware, software, systems capabilities, and maintenance for 200 locations; (2) optical mark scanners for 125 elementary schools; (3) one computer training laboratory to support inservice education for teachers about computing, with incremental prices for devices and software to equip additional laboratories should they be desired; (4) communications hardware to link all work stations and other core equipment into a fixed or message-based network; (5) communications facilities to implement solutions proposed in sections one and/or four; and (6) student computer laboratories including tutorial and diagnostic assistance in certain curriculum areas. Procedures and criteria which will be used to evaluate vendors' responses are also provided.

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TECHNICAL SPECIFICATIONS FOR HARDWARE
AND SOFTWARE, AND MAINTENANCE IN SUPPORT
OF COMPUTER LITERACY PROGRAM

Volume II

District of Columbia Public Schools
Washington, D.C.
September 1982

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Technical Specifications for Hardware and Software, and
Maintenance in Support of Computer Literacy Program

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Introduction

The District of Columbia Public Schools (DCPS) intend to procure computing equipment, software, communications equipment and maintenance service to meet the first-year objectives of the Computer Literacy Program. The following background information is presented to acquaint potential vendors with the types of computing to be performed.

DCPS addresses the educational needs of about 95,000 students. A key thrust in the Superintendent's long-range planning is to deliver to all students appropriate instruction about computing and via computing. Additionally, paperwork requirements of teachers must be reduced through computer support for classroom data management.

The Superintendent's Computer Literacy Planning Group has addressed itself to determining specific programs to meet the Superintendent's goals. As the first step, a significant number of teachers will participate in introductory computing courses during Summer, 1982. Further teacher training will continue during the School Year 1982-83.

The Computer Literacy Planning Group has preliminarily identified five-year objectives as including:

- --"[to] develop computer awareness among students, teachers, supervisors and administrators...;
- "[to] develop and implement a computer literacy curriculum;
- "[to] develop greater employability skills among students by expanding programs which prepare them to enter jobs or advanced training for future jobs, particularly those in the D.C. metropolitan area;
- "[to] design and implement a Computer Training Laboratory;
- "[to] apply computer technology in the local school implementation of the Competency-Based Curriculum through drill and practice, tutorials, simulations and other appropriate techniques;
- "[to] apply computer technology in classroom management, including record-keeping, tracking of student progress

and reporting student progress; and

--"[to] apply computer technology to local school management."

The Planning Group has identified three first year goals. The purpose of this Request for Proposals is to address those goals.

The first goal is to provide meaningful exposure to computing topics and devices for as many teaching personnel as possible. While the form of exposure will vary due to these persons' responsibilities and interest, hardware bids by vendors must insure availability of general purpose computing resources to these persons. Such availability will allow further development of skills introduced in the Summer, 1982, Training Laboratory.

The second goal which this Request for Proposals addresses is support for teachers in managing classroom data. In the District's schools such data currently includes Competency-Based Curriculum checklists for each elementary student; diagnostic, prescriptive and competency tests; longitudinal results of those tests; and textual materials such as memos, letters and announcements. Similarly, equipment, software and services bid must support the paperwork needs of the principal and front-office staff.

The third goal for the first year is to provide supplemental diagnostic and tutorial assistance for certain disadvantaged students via computing. Such computer assistance will be in the areas of Reading, Language Arts, Mathematics Computation and Mathematics Problem Solving.

Parallel efforts are underway to establish comprehensive student programs in various aspects of computing. These programs will be implemented over a period of five years. Both the present equipment procurement and teacher training will provide a foundation for future student computing experiences.

Specifications
Mandatory Requirements
and
Desirables

Requirements listed below are mandatory elements of vendors' bids unless explicitly marked "desirable". The requirements are divided into six (6) sections. Vendors may respond to one or more of these sections. Vendors responding to Section One, Core Equipment, and/or Section Six, Student

Computer Laboratories, must also respond to Section Five, Communications Facilities Required. Section five represents a vendor specification of costs which DCPS will encounter in implementing the successful vendor's computer configuration. These costs will be added to vendors' budget proposals for Section One and/or Six in determining the lowest cost bid.

Vendors responding to Section One and/or Six must either respond also to Section Four, Communications Hardware or specify another responding vendor whose communications hardware is compatible with the Communications Infrastructure bid (see bid requirements, below). By so responding to Sections One(or Six) and Four, vendors do not warrant the specific equipment bid by other vendors, but do warrant the interface-level compatibility of such equipment and its specified ability to perform in a manner consistent with requirements of the bid.

Vendors may respond to the software and courseware portion of Section Six (some or all of 6.5 through 6.6.3) without addressing part or all of the hardware portion. Similarly, vendors may respond to the hardware portions of Section Six (some or all items except some or all of 6.5 through 6.6.3). Vendors responding to one portion only, however, must indicate at least one vendor responding to the remaining items. Such a representation does not indicate an endorsement of other vendors' product, but does comprise an assurance of hardware-software compatibility.

Similarly, the software and courseware portion of Section Three (some or all of 3.5 through 3.6.3) may be addressed without addressing hardware.

Regardless of which sections are addressed, successful vendor(s) will assure inside delivery and installation of sufficient quantities of a particular hardware or software item necessary to service 20% of all applicable school locations within 30 days of contract award unless DCPS orders items for fewer than 20 locations, in which case equipment for all locations must be delivered and installed within 30 days of contract award. All remaining locations will receive inside delivery and installation of all items within 60 days of contract award. Delivery schedules may be altered, however, upon mutual agreement of vendor(s) and DCPS. Vendor will schedule and coordinate delivery and installation with appropriate DCPS officials and DCPS personnel at each location. Vendor will assist DCPS in ordering common carrier or other communications facilities which vendor specifies in Section Five of the bid response.

It is desirable that some user-level software and interchange compatibilities exist between Section One, Section Three and Section Six devices. Such compatibility

may be provided via networking, a common programming language, a common operating system, a common overall software environment and/or such other facilities as vendors may be able to provide. Vendors who do not provide this desirable situation will provide a brief explanation of the utility of a non-compatible approach.

DCPS may modify quantities ordered from selected vendor(s) and select alternative equipment from vendors based on needs of the schools. Selected vendor(s) will be asked to supply modified price information in the event that quantities are modified.

Each vendor will state vendor's understanding of the goals and objectives which DCPS seeks to address via this procurement.

Vendors will state the degree to which hardware and software configurations bid can be expanded. Such vendor representations will include associated costs for expansion.

Vendors will specify both purchase and 3-year capital lease/purchase pricing.

All equipment and cabling must meet applicable D.C. Fire Code provisions.

Vendors will specify their experience in serving education agencies. Vendors will list at least three (3) references to support the proposal. The references must be current and identify customer facilities where the proposed or similar equipment is functioning with an equipment configuration similar to the requirements of this bid or components thereof. The name of each reference firm or agency, point of contact and telephone number are required. DCPS shall have the right to visit any reference site(s) of its choosing as a part of the vendor selection process. The offering vendor will, upon request from DCPS, be responsible for arranging the visit(s). If a reference site visit requires traveling a distance greater than 100 miles one-way from DCPS, the vendor will be responsible for providing transportation both to and from the reference site, food and lodging for a maximum of three DCPS and/or District of Columbia Bureau of Materiel Management personnel.

DCPS may, at its option, require a demonstration of capabilities of proposed equipment and software. This is not a benchmark. Rather, vendors may be asked to demonstrate, to the satisfaction of DCPS and/or Bureau of Materiel Management personnel, actual equipment and/or software functioning in the manner represented in vendor bids. This may, at the option of DCPS, include some or all of the items bid. The offering vendor will, upon request

from DCPS, be responsible for arranging the demonstration(s). If a demonstration requires traveling a distance greater than 100 miles one-way from DCPS, the vendor will be responsible for providing transportation both to and from the demonstration site, food and lodging for a maximum of three DCPS and/or District of Columbia Bureau of Materiel Management personnel.

Section One:
Specifications for
Core Equipment

The term "core" relates to the identification by DCPS of this equipment to support the major first-year thrust in computing.

- 1.1 Quantities and Locations The core equipment will serve 200 locations. Approximately 180 of these (the exact count may vary due to school closings) are schools. Each school will receive one core equipment configuration. A list of DCPS school locations is attached. Additionally, 20 executive offices will receive a core equipment configuration. Most of these offices are located in the Presidential Building, 415 12th Street, NW. Core Equipment may not require electrical wiring on the part of DCPS. Nor may special cooling or flooring be required on the part of DCPS beyond that which currently exists.
- 1.2 Keyboard Each core equipment location, hereafter called "station" or "work station", will have a keyboard. Such keyboard will enable full upper and lower case, numeric and special symbols input to a computer. The keyboard itself need not be directly connected to a computer. The keyboard must provide ergonomic comfort to the operator.
- 1.3 Display Screen Each station will include a display screen. This screen will provide at least 80 characters horizontally by 24 characters vertically of display information. Additionally, the display must be capable of displaying graphic information. The screen must be readable under normal office lighting conditions. The screen, in combination with furniture on which it is placed (see below), must provide ergonomic operator comfort in its use.
- It is desirable that the display include color capability. If both color and black and white capabilities exist, vendor will specify pricing for both.
- It is desirable that the display screen be able to allow input to the work station by the user without always requiring entry via the keyboard. Examples of this are entry by a light pen or touch panel.
- 1.4 Processing Power Each station will have access to sufficient processor power to allow one user to perform nominal computing tasks. The processor will be able to simultaneously monitor a communications link to the "Infrastructure" (see below); however this capability is not required if the stations themselves consist of devices connected to a communications network. The purpose of such

monitoring is to insure that local work station usage does not prevent receipt of incoming electronic mail. The processor, memory and operating system must have sufficient capacity to provide one (1) to five (5) second response time to user commands. It is clearly possible that the processor might require more than five seconds to complete processing some user commands. Nevertheless, vendor's combined software-hardware offering must be able to provide some indication that processing starts within five seconds after command entry.

- 1.5 Operating System Software Operating System software will be provided for access by each station. Such software must enable program development and execution at each station. Additionally, that software must enable communications with a Communications Infrastructure (network) as described elsewhere in these requirements; however, this capability is not required if the stations themselves consist of devices connected to a communications network.
- 1.6 Computer Language Software Each station will have access to program development software. This software must have the capability itself, or in conjunction with other vendor-supplied software, to create and update source programs, to compile programs if necessary and to create and edit data files in an on-line mode. It is desirable that such editing be accomplished through a screen editor; that the editor make use of function keys, if any, provided on the work station keyboard; and that the editor or another computer program provide rudimentary word processing features.

1.6.1 BASIC Each station will have access to an interactive version of the BASIC programming language. Vendors will specify which capabilities of the BASIC language are available. Regardless, the version of BASIC supplied must allow access to the communications network supplied by the vendor, as required elsewhere in these specifications. Vendors will specify how this access is implemented. Additionally, the version of BASIC supplied must provide access to all vendor supported file organization methods; for example: data base, indexed sequential and sequential.

1.6.2 Courseware Authoring Language Each station will have access to an authoring language which allows creation and use of programmed instruction (Computer-Assisted Instruction). Vendors will specify which capabilities are available in the particular language.

The authoring language must provide methods for developing lessons that can utilize a variety of

instructional approaches. Some of these include, but are not limited to: drill and practice, tutorials, simulations, problem solving and instructional games. It is required that the language be easy to use by instructors, as opposed to programmers; and that the language has been designed specifically for instructional delivery, as opposed to data processing applications.

Menu-driven, non-programming authoring facilities are desirable as long as they do not limit the development of all lessons to narrow, rigid formats or instructional approaches.

The authoring language, or the system in which it is embedded, must provide the capability of tracking student usage of courseware developed through the language.

The authoring language capability may be provided through communications with Computer Training Laboratory equipment (Section Three) or Student Computer Laboratory equipment (Section Six).

1.6.3 Applications Software Assistance Vendor will provide DCPS with expert assistance in the planning and development of applications software for the equipment and software configuration bid. DCPS will utilize this assistance in support of the quick and efficient development of computer programs to manage classroom data. Vendors should estimate 6 months' full time involvement of one expert on this project. Vendors must include the resumes of at least one person likely to participate in this effort.

1.6.4 Other Programming Languages (DESIRABLE) Vendors may specify further programming languages for consideration by DCPS. Vendors specifying such languages will describe the key features of the languages and indicate the utility of including them in DCPS's Computer Literacy Program.

1.7 Memory Each station will have access to sufficient memory to allow the maximum nominal real program and data usage required for the vendor-supplied operating system, one nominally large user program and one vendor-supplied network communications program. "Nominally large" is defined as the largest of computer programs typically run on a particular vendor's equipment.

1.8 Printer Each station will include an attached printer. The printer must be capable of upper and lower case printing. The printer must use conventional, tractor-fed paper. Chemically treated paper may not be required for proper operation of the printer. In other words, impact or similar

technology must be utilized. Printing speed must be at least 100 characters per second or equivalent. The printer must be able to print on forms of up to 14 inches in width. The printer must provide 10 character per inch or similar printing horizontally and 6 character per inch printing vertically. It is desirable that the printer be able to respond to form feed commands.

The printer must be attached in a manner that allows copying material displayed on the work station's display screen. This feature may be implemented under software control of the work station or a remote computer. The printer will be separately selectable under software or hardware control of the work station. This feature may also be accomplished through provision of a separate communications path from the processor to the printer. Furthermore, operation of other devices at the work station must not preclude printer operation.

Each printer must be capable of occasionally producing moderate volumes of output. Volumes will not exceed an average of 150 pages per day. This volume is expected only once per month in each school location.

It is desirable that the printer also be capable of reproducing graphics displayed on the work station's display screen. If printer graphics are provided, vendors may choose to delete display screen graphics (see 1.3, above); however, if vendor can provide both capabilities, costs for both should be included in an attachment to vendor's bid.

- 1.9 Program and Data Storage Each station will have access to sufficient disk or similarly fast secondary storage to contain classroom data concerning up to 700 students. Stations in junior and senior high schools must have access to storage for data concerning 1600 students. Student data will consist of 100 characters of identifying information and 400 characters of competency performance information.

Furthermore, each station will have access to sufficient disk storage to hold 20 files for each of 30 teachers. Stations in junior and senior high schools must have access to storage for 70 teachers' files. This will include 10 program files of the nature and size required by the particular operating system in use. The remaining 10 files will be data files with a maximum of 30,000 characters (10 fully filled pages of text) for each teacher.

All student information and one teacher's files must be available for simultaneous use. Other files may be stored off-line, such as on removable disks, depending on the approach suggested by the successful vendor. Regardless, teachers must be able to move their files to an on-line

status quickly.

1.10 Ability to Use Other Stations' and Computers' Programs

Each station must have access to computer programs and data at other locations. This will enable users to share programs and data. If processing power and storage are located at the stations themselves, such access must enable transfer of executable program images as well as source programs among stations. Transfers may take place on a delayed basis: either through a background process or on an overnight basis. As indicated in the description of the Communications Infrastructure, however, an explicit procedure for sharing programs and data need not be provided if the hardware and software bid provide this capability on a de facto basis, as in a single processor or networked distributed processor configuration.

Vendors will show that appropriate security features are available in performing transfers such that only authorized persons may perform transfers. Additionally, vendors will agree that a copy of vendor supplied software shared in this manner will not be counted as two copies of software when determining license fees payable by DCPS. This restriction will not apply, however, if more than one site uses the same software at essentially the same time. Nor will it apply to operating system software and language processors which are in frequent use at many work stations.

1.11 Ability to Connect External Devices Each station will have the ability to attach external digital devices. Such devices must be attachable through an industry standard interface. It is desirable that this be an RS-232, serial, asynchronous, ASCII interface. Regardless, the interface must be capable of attaching the Optical Mark Scanner provided by the successful vendor to Section Three of this bid invitation.

1.12 Self-Diagnostic Capabilities Each station will contain lights or other displays which indicate rudimentary failures within the station's component equipment. Such displays must provide simple diagnostic information which DCPS clerical and teaching staff can relay to appropriate maintenance personnel. In the case of simple failures, such as paper outages, the diagnostic displays must notify DCPS personnel of actions to be taken.

1.13 Physical Security Each station must include devices or other features to help prevent theft. Acceptable solutions include locking devices, software implementations of burglar alarms through the communications network, attachment to existing DCPS burglar alarms. It is vendors' responsibility to demonstrate that equipment bid contains some intrinsic feature which makes user stations less prone to theft, or theft easier to ascertain, than equipment without such

feature.

- 1.14 Accessories Vendor will supply furniture to hold all components of each station, including those bid separately in response to other sections of this invitation. The furniture will include a locking housing if no other physical security features are provided in response to 1.13 (above). Furniture will be of such height as to allow operator comfort in use of a station.

Vendor will also supply all electrical, digital and communications cables necessary to connect the station with all mains, devices and communications facilities, including those not supplied in response to this section of the invitation.

Vendor will estimate quantities -- and provide for such estimate -- consumable supplies necessary to operate devices bid for the period of one year. These will include but are not limited to ribbons, paper, lubricants, chemicals and cleaners required directly or indirectly in proper use of equipment for the functions described in these specifications.

1.15 (DELETED)

- 1.16 Reference Manuals Vendor will supply one copy of all reference manuals appropriate for end-user personnel at each location. Such reference material will address vendor's hardware and software. In the case of software, reference materials must include training materials appropriate to persons new to computing. Vendor will allow DCPS to make further copies of these materials for use in internal training.

- 1.17 Training Vendor will conduct instruction in use of its equipment and software. Intensive Training sessions will be provided to a small group of DCPS personnel responsible for the operation of the Computer Literacy effort. A seminar of several days' duration will be provided to two representatives from each school and executive location.

- 1.18 Communications Infrastructure Vendor will supply all necessary computing equipment and software to support a facility for electronic mail and other file transfer. This facility must allow message broadcast to all school locations within 20 minutes of message transmission, regardless of other usage of work stations. Additionally, any one station must be able to transmit a message directly or indirectly to any station or group of stations. Individual users at each station will be identified. Message transmission and receipt must be controllable based on privileges allocated to each station and user.

Vendor will specify further mailing capabilities which will be provided.

Further capabilities, to the extent that they are not included in the mail system, must be provided for file transfer. Users must be able to request loan of computer programs and data from a library-type facility. This electronic facility must be capable of locating and transmitting a copy of any catalogued item. Items will typically be programs for execution at stations. This feature is not necessary if computing resources are provided through central or other formally unified equipment which provides this feature de facto.

- 1.19 Preventive, Remedial and Updating Maintenance of Above Equipment and Software The successful bidder will provide maintenance service for all of the above items. Maintenance service will be in addition to any and all warranties normally offered on vendor's equipment, software and services in the commercial marketplace. Maintenance service will include all parts and services necessary to keep equipment and software proposed in this bid in good working order. Vendors must assure that interruptions of operation of equipment at any one school or executive office location will not exceed two working days as defined by the working schedule of DCPS. Similar assurances must be made for all other equipment and software if central equipment components are included. The penalty for failure to observe this condition of bid award will be the prorated value of the total bid award for the period of time during which vendor is unable to maintain equipment and software performance at the required level. DCPS may, at its discretion, allow this requirement to lapse during emergency situations beyond the control of vendor and DCPS, such as Acts of God and failures of utilities to provide normal service. Vendor will, however, be responsible for demonstrating that such an emergency situation exists.

The period of maintenance coverage will begin immediately upon termination of commercial warranties. Coverage will continue for one year from that date. Vendor's performance under such warranties must, however, equal performance required by these maintenance requirements.

Vendors must reflect the particular configuration of equipment proposed for DCPS in making a bid for maintenance service. In particular, vendors will note that DCPS proposes to implement a very dense configuration of equipment within a small geographic area. Vendors must propose maintenance response which addresses such a configuration in an economical fashion. Additionally, DCPS is an agency directly involved in the education process of a large number of students. Vendor will be required to

participate in cooperative training of students for computer maintenance.

- 1.19.0 General Requirements Although stated elsewhere, the contractual responsibility of the selected bidder will be to assure that equipment and programs delivered to each DCPS location are available for use during 95% of the DCPS working hours during the period of warranty and maintenance. Working hours are defined as the hours from 7 A.M. to 6 P.M. on days that are not DCPS holidays or emergency leave days. Vendor will not, however, be responsible for outages of vendor products during periods of emergency beyond the control of DCPS and vendor as demonstrated by vendor.

Moreover, the mean time before failure at all DCPS locations combined will not exceed thirty (30) calendar days.

The selected vendor must agree to submit to an acceptance trial period of performance of ninety (90) consecutive days. The period will begin on the first full work day after the vendor and DCPS agree and declare the full configuration is operational.

During the ninety (90) day period the equipment and programs must perform a rate and functionality consistent with the specifications contained in the selected vendor's bid. The equipment must be available for unrestricted use at the 95% level subject to the limitations described above. Failure to satisfy the acceptance trial period of performance may result in the removal and replacement of the equipment and programs.

In the event that the selected vendor fails to meet all requirements, DCPS will have the right to declare the vendor in default and to terminate all agreements, written or verbal, without penalty or obligation to DCPS. Upon making written notice of default to the vendor, the vendor will remove all equipment installed as a result of this bid and DCPS will have the right to select an alternate vendor.

- 1.19.1 Remedial Maintenance Response Remedial maintenance will commence promptly after notification that equipment is inoperative and vendor will always be responsive to the maintenance requirements of DCPS. DCPS will implement a hot line maintenance clearinghouse. This will insure a minimal number of inappropriate remedial maintenance requests to vendor. Economies provided by this service must be reflected explicitly in vendors' bids. The successful vendor will provide DCPS with a designated point(s) of contact.

- 1.19.1.1 School and Executive Office Locations: Maintenance

personnel must respond with a phone call to the location requiring maintenance within two hours after notification by DCPS that remedial maintenance is required. That phone call must attempt to elicit such information from personnel at that location as is necessary to determine a first line of approach to repair.

Vendor's personnel will arrive at the DCPS location in response to a remedial maintenance call within eight working hours as defined by the DCPS schedule of work days. After arrival, diagnostic and repair efforts will continue uninterrupted until repair or replacement of that site's equipment or software has been effected.

If the equipment or software malfunction has not been diagnosed and repair begun within two (2) hours of the time of arrival of vendor personnel, vendor will utilize 2nd level technical support. This will be defined as a specialist with additional training and/or experience who specializes in providing diagnostic assistance and/or repair expertise when a service call is particularly difficult.

If four (4) additional hours elapse from the time of response at the 2nd level of technical support and the equipment or software malfunction has not been diagnosed and repair begun, vendor will replace the faulty equipment with essentially new equipment. Such equipment may, in turn, be replaced by the original equipment at such time as it has been repaired by vendor. In all cases, service outages at any one site will not exceed two (2) working days (16 working hours for DCPS) as indicated above.

1.19.1.2 Other Equipment Locations This section addresses remedial maintenance requirements for central or regional equipment and software which serve more than one work station. These components may not be out of operation for more than one working day for any instance. Additionally, such equipment must be available during 95% of the working hours covered by the period of warranty and maintenance service. Vendors bidding central and/or regional equipment configurations will present remedial maintenance designs which address this requirement. Vendor will not, however, be responsible for outages due to Acts of God or failures of utilities to provide normal service when vendor can demonstrate such conditions to the satisfaction of DCPS.

1.19.2 Student Training Component Vendor, in cooperation with appropriate vocational education officials of DCPS, will establish a program for inclusion of selected student trainees in the maintenance of computer equipment and software. Students will have fulfilled sufficient academic requirements. They will participate on a half-day basis in maintenance activities. In this capacity, they will accompany vendor personnel on remedial maintenance visits to DCPS sites and/or participate in depot maintenance at DCPS or vendor locations.

In addressing the student training effort, vendor will also provide training manuals and tools necessary for meaningful student participation in some aspects of the maintenance effort for equipment and software supplied to DCPS.

- 1.19.3 On-Site Vendor Personnel Vendors will explicitly state whether and why they are able to provide one or more dedicated maintenance personnel and facilities to address the maintenance needs of DCPS. Such personnel and facilities would be housed at the DCPS's coordinating location for the Computer Literacy effort and provide depot service for common equipment and software faults. Such personnel would also participate in the student training program.
- 1.19.4 Preventive Maintenance Vendor will regularly perform preventive maintenance on equipment procured under this bid. Time required for such preventive maintenance will not be calculated in determining service outages. Preventive maintenance will be performed at a time which is mutually acceptable to each DCPS location and the selected vendor and which is consistent with DCPS's operating requirements. Preventive maintenance will include diagnosis, lubrication, necessary adjustments and replacement of maintenance parts deemed necessary by vendor.
- 1.19.5 Equipment and Software Updating Vendor will provide such modifications, additions and adjustments to installed DCPS equipment and programs supplied under this bid as are necessary to maintain currency with the product line. Such updates will not be limited to corrective measures necessary to remedy problems discovered since DCPS's original procurement. Rather, it is DCPS's goal to maintain parity with newly purchased equipment of the same product line subject to the limitations of the state-of-the-art and vendors' abilities to introduce new, unrelated or incompatible technologies. Vendors will specify active measures which will be implemented to maintain DCPS's investment in line with the continuing evolution, if any, of the devices which DCPS procures. These measures will not involve added expense for DCPS. Additionally, vendors will specify upgrade measures which may be invoked in the future at the discretion of DCPS in order to keep pace with the advancing state-of-the-art. Such measures may include, but are not limited to, vendors' buying back purchased or leased equipment or accepting such equipment in trade for new product lines. Vendors will estimate costs which DCPS would incur under such arrangements. These costs will not, however, be included in calculations of the lowest cost bid.
- 1.19.6 Other Approaches Vendors may specify alternative maintenance plans which address the need for essentially

continuous availability of equipment. Such plans must incorporate the 95% performance level indicated above for the equipment and software at any one station and location.

- 1.19.7 Second Year Maintenance Costs Vendors will include an estimate of second year equipment and software maintenance costs for items bid. This figure will not be included in determinations of the lowest cost bid. Should DCPS elect to contract in the second year with the successful vendor for maintenance service, the costs for such service may not exceed the estimate by the increase in the cost of living, as determined by the Federal Government, plus 10%.

All software will include perpetual use licenses. Thus, there may be no second or further year charges for use of vendor software. In the event that DCPS elects to lease/purchase vendor equipment and software, however, license fees may be paid to vendor(s) over the period of the lease/purchase. This restriction will not, however, limit vendors from charging fees for maintenance, improvement and updating of software purchased by DCPS.

- 1.19.8 Training of DCPS Repair Person The selected vendor will train one (1) DCPS repair person to perform primary diagnostic and repair work. DCPS has allocated one position for this purpose. Vendors will, therefore, indicate the background required of the repair person and the manner in which the repair person can participate in a cooperative maintenance effort to remove some maintenance burdens from vendor personnel. More importantly, inclusion of the DCPS repair person should further the goal of minimal equipment outages. Vendor will supply any capital equipment required in this person's work.

- 1.20 Bar Code Equipment (DESIRABLE) Vendors may specify a bar code reader for attachment to each work station. This may be a wand or laser scanning device. It must be capable of reading a bar code which can be produced by a label printer which vendors will also specify, if they choose to respond to this portion of the bid. Alternatively or additionally, the bar code reader will have the ability to read bar codes produced by the printer attached to each work station. DCPS will neither accept nor reject any bid on the basis of response or non-response to this desirable. Similarly, costs for this item will not be calculated when performing a determination of the lowest cost bid.

- 1.21 Additional Capabilities and Capacities Vendors will specify features of their equipment and programs which exceed the above specifications. Vendors may propose items in areas other than the above. These items, however, must be listed separately when detailing costs and specifications.

Section Two:
Optical Mark Scanners

This section details mandatory requirements for optical mark scanning devices for elementary schools (125 locations) which will communicate with each work station's processor.

Such scanning equipment must be capable of reading multiple-choice answer sheets. Answer sheets must be capable of eliciting student responses to five-choice questions. Answers will be marked by students using pencils. Answer sheets must be capable of holding responses to at least 50 questions. Additionally, answer sheets must be capable of holding student identifying information in a manner which is easily marked by elementary students. It is desirable that such identifying information include alphabetic data, such as student names.

Scanning equipment must be capable of scanning approximately thirty (30) sheets per minute. Scanned data will be transmitted to the work station or processor over an RS-232 serial, asynchronous, ASCII or other interface compatible with the work station or processor at an appropriate speed to keep pace with scanning. It is mandatory that answer sheets be fed automatically by the scanning equipment. Vendors will specify pricing for both automatically and manually fed devices if both are available.

Scanning equipment will send appropriate control sequences to the work station in the event of unusual conditions. Such conditions will include paper jams and inappropriately marked answer sheets if vendor equipment detects these. Regardless, status of the scanning equipment must be available to the work station via the interface to the work station and/or via data transmitted over this interface.

All maintenance requirements from Section One, Core Equipment, apply to maintenance for optical mark scanners (see 1.19 through 1.19.7, above). Should the selected vendor of optical mark equipment, however, be one which has not successfully bid on Section One, the optical mark vendor will not be required to implement a cooperative maintenance program for student training. Vendors who choose to respond to Section Two, only, should thus not include a plan for such a program.

Section Three:
Computer Training Laboratory

This section details requirements for one Computer Training Laboratory which will be established at the DCPS Instructional Services Center. This Lab will support in-service education for teachers about computing. Vendors will specify incremental pricing for devices and software necessary to equip further labs in the event that DCPS chooses to implement further such facilities. Pricing should thus be shown in for 1, 30, 35 and 40 labs.

- 3.0 General Requirements and Considerations for Students with Handicapping Conditions In addition to responses to specifications below, vendors will specify equipment, software and reference materials which are suitable for use by students and teachers with handicapping conditions. Minimally, visual handicaps should be addressed through devices and/or software which convert computer textual material to voice and/or Braille representations; auditory handicaps should be addressed through accessory lights or displays to supplement bells typically found on computer devices; tactile handicaps should be addressed through voice-input and/or alternative keyboard approaches. These items are mandatory for 5% of all work stations should DCPS order ten (10) or more labs; they are desirable if fewer labs are ordered. Nevertheless, each vendor will address these topics and show the capability of providing or subcontracting to provide appropriate items for the handicapped since DCPS plans to increase the number of labs in the future to include Special Education schools and schools which provide services to handicapped students.

- 3.1 Quantities and Locations There will be at least one Computer Training Laboratory. If DCPS elects to operate one lab, it will be located at the Instructional Services Center (ISC) or another similar Office of Instruction location. DCPS may, at its discretion, elect to purchase equipment and software for multiple computer training labs from the successful vendor and to modify the number of work stations in any one lab. Lab equipment may not require special electrical wiring on the part of DCPS. The ISC's Lab will consist of 15 work stations. Further Labs, if funded, will consist of 10 work stations. Work stations, in turn, must consist of the following components---

- 3.2 Keyboard Requirements are the same as for 1.2.

- 3.3 Display Screen Requirements are the same as for 1.3, except that the number of characters displayed may vary from the mandatory requirements for 1.3. This notwithstanding, vendor must be able to empirically demonstrate that

characters on the display screen are easily read as evidenced by an externally developed ergonomic standard.

3.4 Processing Power Requirements are the same as 1.4, except simultaneous electronic mail capability is not required. Nevertheless, the processor must have the capability to perform file transfers with external devices on a standalone basis.

3.5 Operating System Software Requirements are the same as for 1.5. Additionally, vendors will indicate in an addendum to their bids, the estimated number of commercially available software packages for the education marketplace that are compatible with the particular operating system and computer languages bid. Documentation must be supplied with the bid to substantiate the estimate. Vendors do not warrant the performance of these software package by virtue of supplying such documentation.

3.6 Computer Language Software Requirements are the same as 1.6.

3.6.1 BASIC Requirements are the same as 1.6.1.

3.6.2 Courseware Authoring Language Requirements are the same as 1.6.2.

3.6.2.1 Courseware Requirements One of the prime functions which Computer Training Laboratories will fulfill as they are expanded to serve all schools is computer-assisted instruction (CAI). Vendors should specify which courseware is available for the equipment and software configuration bid. To the extent possible, vendors should also indicate their plans and commitment for expansion of their courseware libraries.

CAI activities will primarily take place in elementary and junior high schools. They will be keyed to the school system's curriculum. Some of these subject areas of interest include, but are not limited to: mathematics, reading, writing, science (chemistry, physics and biology), social studies, computer science, computer literacy, vocational courses and career development.

Vendors will not be required to provide all of these capabilities in the first year of implementation. It is desirable that vendor courseware bid address as many of these areas as possible. It is required that, as a part of this bid, vendors provide at least some of the basic skills courseware for Computer Training Laboratories such as described in 6.6.3 for the Student Computer Laboratories.

It is required that the courseware proposed utilize a

variety of instructional and motivational approaches, have empirical research showing improved student achievement and be competency based in format.

- 3.6.3 Introductory Programming Language Vendors will supply LOGO or similar. Vendors will demonstrate in their bids that they are familiar with the operation and facilities of this language. Vendors who do not supply LOGO may instead choose to develop this language or similar upon successful bid award. Vendors taking this approach will demonstrate that they or a subcontractor are capable of successfully developing this software within the first six months of the contract period. If LOGO itself is proposed to be developed for this contract, vendors will ascertain that all copyright releases necessary have been obtained from the original developers of LOGO.
- 3.6.4 Other Programming Languages (DESIRABLE) Vendors may specify further programming languages for consideration by DCPS. Vendors specifying such languages will describe the key features of the languages and indicate the utility of including them in the Computer Training Laboratory component of DCPS's Computer Literacy Program.
- 3.7 Memory Requirements are the same as 1.7, except no memory need be allocated for simultaneous execution of a communications task.
- 3.8 Printer Requirements and desirables are the same as 1.8. Only one printer need be supplied for the Computer Training Lab(s) as contrasted with one per work station for the core equipment.
- 3.9 Program and Data Storage Each station in the Computer Lab will have access to at least 200,000 characters of on-line, secondary storage.
- 3.10 Ability to Use Other Stations' and Computers' Programs Requirements are the same as 1.10.
- 3.11 Ability to Connect External Devices Each station in the lab will have capability for connection to a modem or similar communications device necessary to perform the functions of 3.10.
- 3.12 Self-Diagnostic Capabilities Requirements are the same as 1.12.
- 3.13 Physical Security Requirements are the same as 1.13.
- 3.14 Accessories Requirements are the same as 1.14. Additionally, vendors will supply one modem, Bell 212-A or similar, per lab and other software and hardware

arrangements necessary for serial, asynchronous, ASCII communications with remote computers at 300 and 1200 Baud. This requirement is not in effect, however, if the work stations are implemented through on-line communications with a distant computer which provides capabilities for program sharing among current and future computer training labs. In that case, however, vendor must supply a means of transferring data and program files via a Bell 212-A or similar modem at some point in the equipment configuration.

3.15 (DELETED)

3.16 Reference Materials Requirements are the same as 1.16.

3.17 Training Vendor will conduct instruction in use of its equipment and software. Intensive training will be provided to approximately 30 DCPS personnel in every user-level facet of hardware and software.

3.18 (DELETED)

3.19 Preventive, Remedial and Updating Maintenance of Above Equipment and Software All maintenance requirements (see 1.19, above) relating to school work stations apply to work stations supplied for the Computer Training Laboratory. All maintenance requirements relating to central or regional equipment and software apply to the Computer Training Laboratory in the event that vendor elects to supply one processor to address the computing needs of the lab.

However, should a different vendor from that selected to provide core equipment be selected to furnish equipment for the Computer Training Lab(s), such vendor to the Computer Lab will not be required to implement a cooperative maintenance and student training program at this time. Such exception notwithstanding, prospective vendors of Computer Laboratory equipment and software will demonstrate in the bid response the capability to provide such cooperative maintenance and student training and include a short plan describing the approach which will be taken in addressing this requirement. This response is required in that the Computer Training Lab will be a prototype for implementation of computer labs throughout DCPS school locations. It is, therefore, in the best interest of DCPS to determine that a vendor selected at this point in time will be able to respond to future plans of the school system.

3.20 Additional Capabilities and Capacities Vendors will specify features of their equipment and programs which exceed the above specifications. Vendors may propose items in areas other than the above. These items, however, must be listed separately when detailing costs and specifications.

Section Four:
Communications Hardware

Vendors who choose to respond to Section One, Core Equipment, or Section Six, Student Computer Laboratories, must also respond to this section. Alternatively, they may designate one or more vendors whose product offerings match the communications hardware requirements of proposed Core Equipment.

Vendors Responding to Section One:

The Section Four response must describe communications equipment which will be supplied to link all work stations and other Core Equipment into a fixed or message-based network. A fixed network is defined as one which provides constant real or virtual paths between a work station and other work stations, directly or through a network controller(s) or similar devices. A message-based network is defined as one which provides on-demand contention for connection to other work stations, directly or -- more likely -- through a network controller, including common carrier switches.

Communications equipment is defined as those devices which connect the work stations and other hardware from the Core Equipment section with a common or private carrier system. Furthermore, communications equipment may include private carrier equipment if vendor proposes that DCPS install and operate such a system for the purpose of interconnecting Core Equipment.

There are no mandatory requirements that address device specifics. Rather, DCPS requires that vendors specify a combination of communications devices which allow vendor equipment to perform all functions specified in Section One, Core Equipment. Moreover, the communications equipment must allow vendor equipment to perform these functions in an expeditious manner. Finally, vendors bidding communications equipment must demonstrate that the communications equipment reflects the state-of-the-art, given the requirements placed upon it and communications facilities available in the District of Columbia.

DCPS will select the lowest cost bid for communications equipment which is technically compatible with selected Core Equipment. This need not, however, be a bid which has the prior approval or knowledge of the selected vendor of Core Equipment.

DCPS suggests that vendors consider approaches to communications which will minimize DCPS's hardware investment while meeting basic communications requirements.

Multi-point networks should be considered. Non-traditional carrier services should also be considered. Finally, vendors should examine economies available when interconnecting sites within a city in which many sites can be connected via metallic pairs. Cable television facilities are not, however, available at this time.

Vendors Responding to Section Six:

The Section Four response will detail communications hardware, if any, which will be supplied to connect equipment bid for Student Computer Laboratories. All of the above considerations for vendors responding to Section One apply, except that an approach which requires data communications is not mandatory.

Preventive, Remedial and Updating Maintenance of Above Equipment and Software All maintenance requirements (see 1.19, above) relating to work stations for Core Equipment apply to Communications Hardware placed at work stations. All maintenance requirements relating to central or regional equipment apply to centrally or regionally placed Communications Hardware, if any.

However, should a different vendor from that selected to provide Core or Student Computer Laboratory Equipment be selected to furnish Communications Hardware, such vendor of Communications Hardware will not be required to implement a cooperative maintenance and student training program at this time. Such exception notwithstanding, prospective vendors of Communications Hardware will demonstrate in the bid response the capability to provide such cooperative maintenance and student training and include a short plan describing the approach which would be taken in addressing this requirement.

Section Five:
Communications Facilities Required

Vendors responding to Section One, Core Equipment, or Section Four, Communications Hardware, must also respond to this section.

Vendors will indicate common and/or private carrier facilities required to implement communications solutions proposed in Section(s) One and/or Four. It is assumed that these are expenses which must be borne by DCPS. For this reason, vendors will also specify the individual and aggregate cost -- on a monthly and yearly basis -- of such communications facilities. This cost will be added to vendors' budget proposals for Section One in determining the lowest cost bid.

Section Six:
Student Computer Laboratories

This section details requirements for Student Computer Laboratories. These facilities will address student needs for tutorial and diagnostic assistance in certain curricular areas.

- 6.1 Quantities and Locations DCPS intends to equip fifty (50) Student Computer Laboratories or as many as funds allotted for this purpose will allow based on vendors' bids. Labs will be located in DCPS elementary school locations. DCPS may, at its discretion, elect to purchase equipment and software for differing numbers of labs from the successful vendor as indicated in the Introduction to this bid invitation. Vendors will specify incremental pricing for devices and software necessary to equip fewer or further labs in the event that DCPS chooses to implement fewer or further such facilities. Lab equipment may not require special electrical wiring on the part of DCPS. DCPS may, at its option, elect to equip any school building with more than one lab. Each lab will consist of 8 work stations. Work stations, in turn, must consist of the following components---
- 6.2 Keyboard Requirements are the same as for 1.2.
- 6.3 Display Screen Requirements are the same as for 1.3, except that the number of characters displayed may vary from the mandatory requirements for 1.6. This notwithstanding, vendor must be able to empirically demonstrate that characters on the display screen are easily read as evidenced by an externally developed ergonomic standard.
- 6.4 Processing Power Each station will have access to sufficient processor power to allow one user to experience wait periods of no more than four (4) seconds when using vendor supplied student tutorial or diagnostic software. If the computer hardware is supplied by a different vendor from that supplying the software, it will be the responsibility of the software vendor to assure this responsiveness. In this event, software vendor(s) will specify which hardware configurations meet DCPS's requirement.
- 6.5 Operating System Software Vendors will specify such operating system software as is necessary to permit operation of curricular software bid.
- 6.6 Computer Language Software Requirements are the same as 1.6. except that only one station need have access to this software.

6.6.1 BASIC Requirements are the same as 1.6.1. except that only one station need have access to this software.

6.6.2 Courseware Authoring Language Requirements are the same as 1.6.2. except that this is a desirable feature and that only one station need have access to this software.

6.6.3 Curricular Software and Associated Print and Non-Print Materials Vendors will specify computer programs, associated data files and other materials necessary to implement tutorial and diagnostic support for students in Reading, Language Arts, Mathematics Computation and Mathematics Problem Solving. These programs, data files and other materials are hereafter termed courseware. Vendors may specify additional areas of support in an attachment to the base bid. Elementary grades (3-8), as appropriate, must be supported. Grades three through five must be supported for Reading and Language Arts courseware. Grades three through eight must be supported for Mathematics Computation and Problem Solving.

Vendors will list the objectives and/or skills addressed by the courseware bid.

Vendors will include background research to indicate the level of success which their courseware has experienced in actual school settings. Such research will include data on actual gains made by students. The research must also show the degree to which such gains were maintained by students after removal from the vendor courseware. Finally, vendors will show comparisons of their approaches with other, non-computer approaches and with control situations in which no special stimuli are incorporated.

Vendors will indicate the length of time for which their courseware has been in use. Vendors will indicate the length of time for which instructional and assessment materials embedded in the courseware bid have been in use.

Vendors will include a representative sample of instructional and assessment items.

Vendors will indicate the manner in which instructional and assessment items bid were developed and validated.

Vendors will agree, within the framework of this bid, to correlate courseware bid with the curricula in effect in DCPS. Vendors will indicate further charges, if any, which would be assessed should DCPS change its curriculum scope and sequence.

Vendor hardware and software will include the capacity and capability of collecting and storing identifying

information concerning 200 students. Vendors will indicate mechanisms for interfacing this information with an externally maintained student data base on all DCPS students.

Vendor hardware and software will include the capacity and capability of collecting and storing data concerning 200 students' usage of the Student Computer Laboratory. Items provided under this section will include computer programs for management of diagnostic and tutorial efforts provided by students. Such programs will print reports concerning the progress of students in mastering skills tutored and assessed by the software.

Vendors will indicate which computer manufacturers' hardware is compatible with software and courseware bid.

Vendors will provide sufficient quantities of all materials necessary to operate an effective supplemental educational program for 9,000 students with an approximately level distribution across grades 3 through 8.

6.6.3.1 Approaches to Equipment Independence Vendors will indicate whether courseware was developed directly in a traditional computer programming language or, alternatively, whether a courseware authoring language or similar was utilized. In either case, vendors will indicate the name and salient features of the language. Vendors will indicate the names of vendor(s) whose hardware and operating system software currently supports the exact language utilized.

6.6.4 Other Programming Languages (DESIRABLE) Vendors may specify further programming languages for consideration by DCPS. Vendors specifying such languages will describe the key features of the languages and indicate the utility of including them in the Student Computer Laboratory component of DCPS's Computer Literacy Program.

6.7 Memory Each station will have have access to sufficient memory to allow efficient operation of vendor-supplied curricular software. As in topics above, software vendor, if different from hardware vendor, will make this assurance. Also as above, four (4) second response time will be required.

6.8 Printer Requirements and desirables are the same as 1.8. Only one printer need be supplied for each Lab as contrasted with one per work station for the Core Equipment.

6.9 Program and Data Storage Each station in the Lab will have access to sufficient secondary disk or similar storage to hold operating system software, vendor-supplied curricular software and data and performance data concerning 200

student's usage of vendor-supplied software. Additional storage will be required for 100 characters of identifying information concerning each of 200 students.

6.10 (DELETED)

6.11 (DELETED)

6.12 Self-Diagnostic Capabilities Requirements are the same as 1.12.

6.13 Physical Security Requirements are the same as 1.13.

6.14 Accessories Requirements are the same as 1.14.

Additionally, vendors will supply one modem, Bell 212-A or similar, per lab and other software and hardware arrangements necessary for serial, asynchronous, ASCII communications with remote computers at 300 and 1200 Baud. This requirement is not in effect, however, if the work stations are implemented through on-line communications with a distant computer which provides capabilities for program sharing among current and future labs. In that case, however, vendor must supply a means of transferring data and program files via a Bell 212-A or similar modem at some point in the equipment configuration.

6.15 (DELETED)

6.16 Reference Materials Requirements are the same as 1.16.

6.17 Training Vendor will conduct instruction in use of its equipment and software. Intensive training will be provided to approximately 100 DCPS personnel in every user-level facet of hardware and software.

6.18 (DELETED)

6.19 Preventive, Remedial and Updating Maintenance of Above Equipment and Software All maintenance requirements (see 1.19, above) relating to school work stations apply to work stations supplied for the Student Computer Laboratories. All maintenance requirements relating to central or regional equipment and software apply to the Student Computer Laboratories in the event that vendor elects to supply one processor to address the computing needs of the lab.

However, should a different vendor from that selected to provide Core Equipment be selected to furnish equipment for the Student Computer Lab(s), such vendor to the Computer Lab will not be required to implement a cooperative maintenance and student training program at this time. Such exception notwithstanding, prospective vendors of Computer Laboratory equipment and software will demonstrate in the

bid response the capability to provide such cooperative maintenance and student training and include a short plan describing the approach which will be taken in addressing this requirement.

- 6.20 Additional Capabilities and Capacities Vendors will specify features of their equipment and programs which exceed the above specifications. Vendors may propose items in areas other than the above. These items, however, must be listed separately when detailing costs and specifications.

Evaluation of Vendor Responses

Vendors' responses will be evaluated using the criteria listed below. Each responding vendor will be informed as quickly as possible of the final disposition of the respective bid. Notification will take place as quickly as possible. It will require at least five (5) working days. DCPS reserves the right to spend as long as four (4) working weeks in evaluation due to the complexity of this competition. The exact time required to evaluate all bids will depend on the clarity of bids themselves and whether it is necessary to seek clarification or demonstration of vendor responses. Vendors should thus insure that prices quoted will be stable for this period of time. DCPS will reject vendor responses without such price stability.

Organization of Proposals:

Bidders must submit proposals in two volumes. Volume I, the technical proposal, must contain the following sections:

- Management Summary -- a short statement of the history, financial status and managerial capabilities of the responding firm
- Understanding of the Problem -- a short statement, showing vendor's appreciation of the area of computer literacy, computer assisted instruction and computer managed instruction. This statement should relate to DCPS's specific objectives in these areas as noted in the Introduction to this request to vendors.
- Technical Methodology and Specifications -- detailed responses to each mandatory and desirable specification listed in the body of this request to vendors.
- Related Company Experience -- vendors will list the three (3) required references here, including a description of the equipment, software and services which vendor has provided to each reference site.

Additionally, vendors will provide a description of work performed for at least two educational agencies of the magnitude of DCPS. This listing will differ from the required references in that sites listed here will not be contacted for verification of company capabilities. Any misrepresentation of vendor involvement will, however, result in decertification.

Vendors may also make use of this section to list further company experiences in computing which might be helpful to DCPS in determining vendor's ability to meet requirements.

-Support Personnel Organization -- Vendors will indicate the numbers and names of personnel who are likely to participate in each aspect of providing products and services to DCPS. As applicable, vendors should indicate persons working with hardware specification and sales; software specification and sales; software specification and sales; hardware installation and maintenance; software installation and maintenance; hardware training for end users; software training for end users; and other functions as appropriate to vendor's products. Vendor certifies by this listing that each person is competent in the function to be performed. Special qualifications may also be listed here.

-Reference Materials -- Vendors will include each reference manual which is likely to be required by end users in DCPS, that i.e. teachers and students. Examples are user instructions for equipment, language manuals for computer programming languages and student instructions for computer assisted instruction (CAI) use. DCPS will use these materials to determine functionality and readability.

Vendors supplying CAI courseware will also include a representative sample of student material from each curricular area addressed.

Volume II, the Financial Proposal, must be delivered in separate sealed envelopes marked "Financial Proposal" and contain all pricing and cost information, plus a certified annual report of the most recent fiscal year. Pricing will be listed for each item and for the aggregate items suggested by vendor. Vendor may also list alternate quantities for any item(s); but must list alternate quantities for such items as indicated in the DCPS specifications.

DCPS may elect to increase quantities ordered within twwnty-four months without issuance of another request to vendors. Vendor must indicate the ability to furnish DCPS with such additional devices and the capability to service a larger complement of equipment than that ordered in the initial contract.

Vendors will supply five (5) copies of each of the above, except only two copies of reference materials are required.

Letter of Transmittal:

A letter of transmittal on the vendor's business stationery should accompany the proposal package. The sole purpose of this letter is to transmit the proposal. Therefore it should be brief and signed by an individual who is authorized to commit the company to the equipment, services and requirements as requested by DCPS.

Evaluation Criteria:

All proposed evaluations will be conducted by a selection committee established by DCPS. During the selection process the committee may call upon technical assistance from any source. The selection committee will first review the submitted proposals for their compliance with essential corporate capability, contractual and mandatory technical requirements. Failure to comply with any requirement may disqualify a vendor.

Proposals from those vendors complying with the above will be studied in depth and evaluated in accordance with criteria established in this section of the RFP.

Cost proposals must be submitted under separate cover and will not be distributed to the selection committee for evaluation until completion of the technical proposal evaluation. DCPS may substitute, in the appropriate vendor's proposal, publicly announced equipment or service price reductions which occur during the proposal evaluation process. This action neither invites nor allows vendors to submit revised proposals not solicited by DCPS.

Bids will be evaluated by section, as indicated in the specifications. Also as indicated in the specifications, DCPS may choose bids from several firms in order to provide the best combination of hardware, software and price. Vendors should indicate whether their ability to provide certain products or prices is dependent on award of more than one section.

If a vendor responds to more than one section, each section will be rated separately, except:

- Sections One, Four and Five will be rated together
- Sections Three, Four and Five will be rated together
- Sections Six, Four and Five will be rated together

In other words, vendors whose bids on Sections One, Three or Six require communications hardware and facilities must respond, or designate another vendor's response, to Sections Four and Five.

If more than one communications network is required to support Sections One, Three and Six, the vendor(s) must provide a separate response to Sections Four and Five for each communications network.

The evaluation process will result in the selection of the vendor with the most favorable combination of high technical value and low overall cost as expressed by the following evaluation criteria elements:

Vendor Understanding, Experience and Support [Weighting Factor 10%]

- 1) Does the vendor have experience in marketing general purpose computing products (CAI products, where applicable)?
- 2) Has the vendor demonstrated a clear understanding of the purpose and intent of the concepts proposed by DCPS?
- 3) Has the vendor's proposed hardware/software (courseware, where applicable), or similar, been installed at a sufficient number of installations for sufficient time to obtain an indication of user satisfaction?

Hardware Technical Approach [Weighting Factor 15%]

Points will be awarded by Section. Since each section has a different number of hardware mandatories, the total point value for each section will differ.

Points will be awarded for inclusion of each mandatory hardware feature. Points will be awarded as follows.

One point will be awarded for each mandatory that a vendor fully meets in a Section. The following mandatories, however, are particularly critical to DCPS and score two points:

- Display Screen
- Program and Data Storage
- Ability to Connect External Devices
- Training (all hardware related training)
- Communications Infrastructure
- Maintenance (all hardware related topics)

The vendor's score for each hardware section will be expressed as a percentage of the best possible score for that section.

Software Technical Approach: [Weighting Factor 15%]

Points will be awarded by Section. Since each section has a different number of software mandatories, the total point value for each section will differ.

Points will be awarded for inclusion of each mandatory software feature. Points will be awarded as follows.

One point will be awarded for each mandatory that a vendor fully meets in a Section. The following mandatories, however, are particularly critical to DCPS and score two points:

- BASIC Language
- Applications Software Assistance
- Training (all software related training)
- Maintenance (all software related topics)
- Courseware for Student Training Laboratories and
- Curricular Software and Associated Materials for Student Computer Laboratories.

The vendor's score for each software section will be expressed as a percentage of the best possible score for that section.

Hardware Desirables [Weighting Factor 5%]

Each hardware desirable in a section will count for one point. Vendor scores for hardware desirables in each section will be expressed as a percentage of the best possible point score for that section. A perfect score will be automatically added to sections with no hardware desirables in order to maintain the perfect vendor score at 100%.

Software Desirables [Weighting Factor 5%]

Each software desirable in a section will count for one point. Vendor scores for software desirables in each section will be expressed as a percentage of the best possible point score for that section. A perfect score will be automatically added to sections with no software desirables in order to maintain the perfect vendor score at 100%.

Management and Competency Requirements and Features: [Weighting Factor 20%]

DCPS will evaluate vendor responses to the following areas in calculating vendor scores for this evaluation criterion:

- 1) Does the vendor maintain a major maintenance facility in the metropolitan area which will can meet parts, personnel and timing requirements of DCPS?
- 2) Does the vendor provide comprehensive documentation?

3) Is the vendor's end user documentation, as appropriate, readable and appropriate for DCPS teacher and student personnel.

4) Are vendor's support personnel appropriately educated and trained to perform the DCPS work effort?

5) Does the experience of other users support the availability and reliability claims of the vendor?

6) How complex is the task of using vendor equipment or software aimed at end users of DCPS?

7) Can vendor's end user equipment and programs operate essentially unattended?

8) Has the vendor specified meeting delivery and installation schedules?

9) Has the vendor represented that air conditioning, wiring and space restrictions will be met?

10) Will the vendor provide delivery, site preparation and installation as required by the specifications?

11) Is the proposal organized in the requested format?

12) Is the presentation clear, well written and effective in communicating ideas?

13) Is sufficient information provided to support project capability?

Cost: [Weighting factor 30%]

Thirty percent (30%) of the weighted score for each section will be assigned to cost. Specifically, the lowest bid for each section will receive 30%, the highest 0% and other bids will receive a score which corresponds to their dollar position between the lowest and highest bid.

DCPS reserves the right to modify vendor quantities if it is apparent that quantities have been understated for the purpose of artificially lowering cost; or overstated for the purpose of providing unnecessary allowances for expansion. Vendors will then be asked to restate costs for the new quantities.